

ABSTRACT

CHARGED PARTICLE ENERGY ANALYSERS

A charged particle energy analyser (Figure 1) comprises a source of electrons 1 and inner and outer cylinders (2,3) arranged concentrically about a longitudinal axis (z-z). Electrical potential applied to the outer cylinder (3) creates an electrostatic field between the cylinders (2,3) defined by equipotentials which are symmetrical about the longitudinal axis z-z and increase linearly in the longitudinal direction and logarithmically in the radial direction. Electrons having different energies are focused by the electrostatic field at discrete positions spaced apart from each other in the longitudinal direction. Also described is a charged particle energy analyser (Figure 6) in which electrons having different energies are focused by the electrostatic field at discrete positions at a surface transverse to the longitudinal axis. Both analysers may operate in the second-order focusing mode.